

**Summary Minutes of the
U.S. Environmental Protection Agency (EPA)
Clean Air Scientific Advisory Committee (CASAC)
Lead Review Panel
Public Meeting
February 5-6, 2013**

Date and Time: Tuesday, February 5, 2013, 8:30 AM – 5:30 PM ET; Wednesday, February 6, 2013, 8:30 AM – 12:30 PM ET

Location: Hilton Garden Inn Raleigh-Cary, 101 Columbus Avenue, Cary, North Carolina 27518

Purpose: The purpose of the meeting was to conduct a peer review of EPA's *Integrated Science Assessment for Lead (Third External Review Draft, November 2012)* and *Policy Assessment for the Review of the Lead National Ambient Air Quality Standards (External Review Draft, January 2013)*.

Participants: Lead Review Panel (for full panel, see roster¹)

Dr. H. Christopher Frey, CASAC Chair

Mr. George Allen

Dr. Herbert Allen

Dr. Richard Canfield

Dr. Deborah Cory-Slechta

Dr. Cliff Davidson

Dr. Sean Hays

Dr. Philip Hopke

Dr. Chris Johnson

Dr. Susan Korrick

Dr. Michael Kosnett

Dr. Roman Lanno

Mr. Richard Poirot

Dr. Joel Pounds

Dr. Michael Rabinowitz

Dr. Ian von Lindern

Dr. Gail Wasserman

Dr. Michael Weitzman

Mr. Aaron Yeow, Designated Federal Office (DFO)

Mr. Christopher Zarba, EPA Science Advisory Board Staff Office

Mr. Thomas Brennan, EPA Science Advisory Board Staff Office

Dr. John Vandenberg, EPA National Center for Environmental Assessment (NCEA)

Dr. Ellen Kirrane, EPA NCEA

Ms. Lydia Wegman, EPA Office of Air Quality and Planning Standards (OAQPS)

Dr. Deirdre Murphy, EPA OAQPS

Ms. Ginger Tennant, EPA OAQPS

Other Attendees (See Attachment A)

Tuesday, February 5, 2013

Opening Remarks

Mr. Aaron Yeow, DFO, opened the meeting. He noted that as required under the Federal Advisory Committee Act (FACA), the Panel's deliberations are held in public with advanced notice given in the Federal Register², and the meeting minutes will be made publicly available after the meeting. He noted that the Panel did not receive any written public comments nor any requests to make oral statements. He did note that there would be additional opportunities for the public to provide clarifying comments. He stated that the SAB Staff Office reviewed information provided by the panel and determined that there were no issues with conflict-of-interest nor any issues with an appearance of a lack of impartiality. He noted that Dr. Christopher Frey had been appointed by the Administrator to be the Chair of the Chartered CASAC. He then turned the meeting over to Mr. Thomas Brennan, the Deputy Director of the SAB Staff Office, welcomed everyone, noted that Dr. Vanessa Vu had retired as Director of the SAB Staff Offices and introduced Mr. Christopher Zarba, Acting Director of the SAB Staff Office. Mr. Zarba welcomed everyone and discussed the importance of the role that the SAB and the CASAC had in ensuring sound science in Agency documents and the importance of achieving balance in SAB and CASAC panels. He then turned the meeting over to Dr. Christopher Frey, Chair of the CASAC.

Dr. Frey welcomed everyone and gave an overview of the Agenda³. He had the panel introduce themselves, and then discussed the charter of the CASAC, the role of the CASAC, and ways that the CASAC could streamline reviews of NAAQS documents. He then introduced Dr. John Vandenberg, from EPA's National Center for Environmental Assessment (NCEA) for his presentation.

EPA Presentation on the Integrated Science Assessment

Dr. John Vandenberg, EPA NCEA, made a presentation⁴ to the Panel. He thanked the Panel members and the public for their comments on the 2nd draft Lead Integrated Science Assessment (ISA) and highlighted some of the changes made in the 3rd draft ISA. He then turned it over to Dr. Ellen Kirrane, who continued with the presentation, providing an overview of the key revisions to the document.

Public Comments on the ISA

There were no public comments so the panel proceeded to the next item on the agenda.

Panel Discussion of the ISA

Preamble, Legislative and Historical Background; Executive Summary (Chapter 1) and Integrative Summary (Chapter 2)

The panel discussed the causality framework and the differences between the "likely to be a causal relationship" and "suggestive of a causal relationship". The panel recommended that it should be made clear when animal data is the basis for the determination as opposed to epidemiological data. There was discussion about the causal designation for the association between lead (Pb) exposure and renal effects and suggested that it should be changed from "likely to be a causal relationship" to "suggestive of a causal relationship".

Chapter 3 – Source to Concentration

The panel thought that the Agency did a good job revising the 2nd Draft ISA and encouraged the EPA to continue the development of a new high-volume Total Suspended Particulates (TSP) air sampler for Pb. There was discussion about the appropriate cut size for the sampler. The members generally agreed that 15 micrometers was appropriate because inefficiencies in sampling occurred at sizes above 15 micrometers.

Chapter 4 – Exposure, Toxicokinetics and Biomarkers

The panel found that the EPA was responsive in addressing the panel's comments on the 2nd Draft ISA. Although the consumer products section was a nice addition, the discussion about the health effects from exposure to them and the importance of them is not adequate. The panel found the presentation and discussion of air-to-blood relationships to be thorough, but that conclusions or summary statements regarding the utility of the relationships for current Pb exposures (and even lower) would be helpful.

Chapter 5 – Integrated Health Effects of Lead

The panel commended the EPA in doing an incredible job of trying to tackle a lot of complicated issues and that the chapter was an improvement over the previous version. There was discussion about the need for more transparency between the determinations made between the “likely to be a causal relationship” to “suggestive of a causal relationship” designations.

The panel found that the revised grouping according to health effects was a major improvement. However, there was some discussion regarding the classification of certain effects as internalizing or externalizing behaviors.

Chapter 6 – Potentially At-Risk Populations

The panel found the chapter to be much improved in terms of the reorganization, better delineation of the sources of risks, and better discussion of at-risk vulnerability and susceptibility. However, the panel found that additional discussion of the magnitude of the impact of these risk factors (e.g., effect modifiers) would be helpful.

Chapter 7 – Ecological Effects of Lead

The panel thought that the EPA did a good job in revising the chapter and that the standardized concentration units made it easier to make comparisons between studies. However, the panel found that a critical loads approach would help in establishing the relationship between ecological effects and Pb in air, water, and soil.

Clarifying Comments from the Public on the ISA

Mr. Yeow read a clarifying comment⁵ from Anita Meyer, Department of Defense Chemical and Material Risk Management Program.

EPA Presentation on the Policy Assessment

Ms. Lydia Wegman, EPA OAQPS, made a presentation⁶ that provided an overview of the Pb NAAQS review. Dr. Deirdre Murphy then continued the presentation, which provided an overview of the PA document.

Public Comments

There were no public comments so the panel proceeded to the next item on the agenda.

Panel Discussion on the PA

Chapter 1 – Introduction

The panel thought that the EPA did a nice job on Chapter 1 and provided a good foundation for the rest of the document. The panel pointed out that Pb is a very unique environmental success story compared to any other pollutant. However, it also has the biggest legacy problem of any pollutant and that the lack of information on human exposures to the legacy Pb is a problem. Although some panel members found the PA to be adequate for its intended purpose, they found the scope to be too narrow and that there was not any mention of the global impacts of Pb.

Chapter 2 – Ambient Air Lead

The panel generally found that the relevant information on emissions, air quality and Pb concentrations in other media was appropriately characterized and clearly communicated. There was discussion of the need for inclusion of more monitoring data, especially for aviation gasoline. The panel was supportive of the EPA developing a new air sampler for Pb and there was discussion about various cut sizes for the sampler. There was discussion of the uncertainty surrounding exposure to legacy Pb through resuspension of soil, dust, diet, and water.

Chapter 3 – Health Effects and Exposure/Risk Information

The panel found that the PA generally captures the key aspects of the health effects evidence presented in the ISA. There were suggestions that the PA could be made more concise and clear by providing summary conclusions regarding the health effects evidence at the beginning of the sections. They found that the risk and exposure information from the previous Pb NAAQS review was adequately presented and concluded that a new risk and exposure assessment (REA) was not needed.

The panel was a little ahead of schedule and Dr. Frey suggested beginning the discussion on Chapter 4.

Chapter 4 – Review of the Primary Standard

The panel generally found that the application of the evidence-based framework and the use of the health risk and exposure information from the previous Pb NAAQS review seemed appropriate. They generally agreed with the EPA that the evidence did not support a revision to current primary standard. They found that the PA lacked discussion of the rationale behind the averaging time and form of the current primary standard.

The panel recessed for the day at 5:30 pm.

Wednesday, February 6, 2013

The meeting was reconvened at 8:30 am.

Panel Discussion on the PA (cont'd.)

Chapter 5 – Welfare Effects and Risk Information

The panel generally found that the chapter did a good job summarizing the welfare effects and risk information. However, they noted that they had concerns with the risk assessment performed in the previous NAAQS review. The EPA judged that four out of the five case studies in that risk assessment had limited or no value for the purposes of the PA. The panel recommended a robust critical loads approach as a research priority to fill in this need.

Chapter 6 – Review of the Secondary Standard

The panel generally agreed with the EPA that the scientific evidence did not support a revision to the current secondary standard. There was further discussion about research needs, particularly a detailed discussion about the critical loads approach.

Dr. Frey asked the lead discussants to summarize the main points of their consensus responses. There was then discussion about the research agenda. The members stated that the main human health research needs were a better understanding of air Pb to blood Pb relationship, a better understanding of the pathways of Pb exposure, particularly to young children, and a better understanding of effects of low level Pb exposure in children.

Due to declining U.S. Pb emissions and the possibility that lowering the Pb NAAQS might not provide any additional health benefit, some panel members suggested that EPA should consider delisting Pb as a criteria pollutant in the future. There was no clear consensus and the panel discussed the benefits of keeping Pb as a criteria pollutant and the benefits of maintaining a Pb NAAQS.

Clarifying Comments from the Public on the PA

There were no clarifying comments from the public so the panel proceeded to the next item on the agenda.

Summary and Action Items

Dr. Frey discussed the writing assignment deadlines as well as the remaining schedule for the review, including a follow-up teleconference on April 1, 2013 from 1:00 – 4:00 PM ET to discuss the draft reports.

With the panel business concluded, the meeting was adjourned by Mr. Yeow at 11:30 am.

Respectfully Submitted:

/Signed/

Mr. Aaron Yeow
Designated Federal Officer
EPA SAB Staff Office

Certified as Accurate:

/Signed/

Dr. H. Christopher Frey
Chair
CASAC

NOTE AND DISCLAIMER: The minutes of this public meeting reflect diverse ideas and suggestions offered by Panel members during the course of deliberations within the meeting. Such ideas, suggestions and deliberations do not necessarily reflect consensus advice from the Panel members. The reader is cautioned to not rely on the minutes to represent final, approved, consensus advice and recommendations offered to the Agency. Such advice and recommendations may be found in the final advisories, commentaries, letters or reports prepared and transmitted to the EPA Administrator following the public meetings.

Materials Cited

The following meeting materials are available on the CASAC website: <http://www.epa.gov/casac>, at the [February 5-6, 2013 CASAC Lead Review Panel Meeting page](#):

¹ Roster

² Federal Register Notice Announcing the Meeting

³ Agenda for February 5-6, 2013 Public Meeting

⁴ EPA Presentation of Revisions to Draft Lead Integrated Science Assessment

⁵ Public Comments from Anita Meyer, Department of Defense Chemical and Material Risk Management Program

⁶ EPA Presentation - Review of the National Ambient Air Quality Standards for Lead - Draft Policy Assessment

**ATTACHMENT A – Other Attendees
CASAC Lead Review Panel Public Meeting**

Tuesday, February 5, 2013

Name	Affiliation
Brown, James	USEPA
Buonanduci, Michele*	ARCADIS U.S., Inc.
Cakir, Halil	USEPA
Cavender, Kevin	USEPA
Datko-Williams, Laura	USEPA
Dubois, Jean Jacques	USEPA
Hines, Erin	USEPA
Hopkinson, Jenny*	Inside EPA
Hoyer, Marion	USEPA
Kotcham, DJ	USEPA
Lassiter, Meredith	USEPA
Lorenz, Alyson*	USEPA
Madden, Meagan	USEPA
Martin, Karen	USEPA
McDow, Steve	USEPA
Meacham, Connie	USEPA
Meyer, Anita*	US Army Corps of Engineers
Nichols, Jennifer	USEPA
Nystrom, Marci*	California Air Resources Board
Oakes, Michelle	USEPA
Orlin, David	USEPA
Owens, Beth	USEPA
Peddle, Meredith	USEPA
Pekar, Zachary	USEPA
Pugh, Barbara*	ARCADIS U.S., Inc.
Puthrath, Resha*	Navy and Marine Corps Public Health Center
Rak, Drew*	Noblis
Richmond-Bryant, Jen	USEPA
Ross, Mary	USEPA
Sipon, Kaylan	USEPA
Stevens, Tina	USEPA
Svendsgaard, David	USEPA
Tennant, Ginger	USEPA

Vinikoor-Imler, Lisa*	USEPA
Weinstock, Lewis	USEPA
Wilkie, Adrien	USEPA
Wilson, Linda*	New York State Office of the Attorney General
Young, Brianna	USEPA

*via teleconference

Wednesday, February 6, 2013

Name	Affiliation
Blase, Kurt*	Holland & Knight
Buonanduci, Michele*	ARCADIS U.S., Inc.
Cavender, Kevin	USEPA
Hines, Erin	USEPA
Hopkinson, Jenny*	Inside EPA
Hoyer, Marion	USEPA
Lassiter, Meredith	USEPA
Lorenz, Alyson*	USEPA
Martin, Karen	USEPA
Meacham, Connie	USEPA
Orlin, David	USEPA
Owens, Beth Osterling*	USEPA
Peddle, Meredith	USEPA
Pugh, Barbara*	ARCADIS U.S., Inc.
Rak, Drew*	Noblis
Ross, Mary*	USEPA
Ryman, Jessica	International Lead & Zinc Research Organization

*via teleconference